

# 6CQ8

## Medium-Mu Triode— Sharp-Cutoff Tetrode

9-PIN MINIATURE TYPE

With Heater Having Controlled Warm-up Time

### GENERAL DATA

#### Electrical:

Heater, for Unipotential Cathodes:

Voltage (AC or DC) . . . . .	6.3	volts
Current . . . . .	0.45 ± 6%	amp ←
Warm-up time (Average) . . . . .	11	sec

Direct Interelectrode Capacitances:

	<i>Without External Shield</i>	<i>With External Shield<sup>▲</sup></i>	
<i>Triode Unit:</i>			
Grid to plate . . . . .	1.8	1.8	μμf
Grid to cathode and heater . . . . .	2.7	2.7	μμf
Plate to cathode and heater . . . . .	0.4	1.2	μμf
<i>Tetrode Unit:</i>			
Grid No.1 to plate . . . . .	0.019 max.	0.015 max.	μμf
Grid No.1 to cathode & internal shield, grid No.2, and heater . . . . .	5	5	μμf
Plate to cathode & internal shield, grid No.2, and heater . . . . .	2.5	3.3	μμf
Tetrode plate to triode plate . . . . .	0.07 max.	0.01 max.	μμf
Heater to cathode (Each unit) . . . . .	3	3 <sup>•</sup>	μμf

#### Characteristics, Class A<sub>1</sub> Amplifier:

	<i>Triode Unit</i>	<i>Tetrode Unit</i>	
Plate Supply Voltage . . . . .	125	125	volts
Grid-No.2 Supply Voltage . . . . .	—	125	volts
Grid-No.1 Supply Voltage . . . . .	—	—1	volt
Cathode Resistor . . . . .	56	—	ohms
Amplification Factor . . . . .	40	—	
Plate Resistance (Approx.) . . . . .	5000	140000	ohms
Transconductance . . . . .	8000	5800	μmhos
Plate Current . . . . .	15	12	ma
Grid-No.2 Current . . . . .	—	4.2	ma
Grid-No.1 Voltage (Approx.) for plate μa = 100 . . . . .	—7	—7	volts

#### Mechanical:

Operating Position . . . . . Any

← Indicates a change.



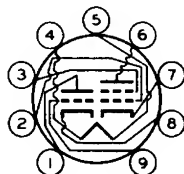
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3-61

# 6CQ8

Maximum Overall Length. . . . . 2-3/16"  
 Maximum Seated Length . . . . . 1-15/16"  
 Length, Base Seat to Bulb Top (Excluding tip). 1-9/16"  $\pm$  3/32"  
 → Diameter. . . . . 0.750" to 0.875"  
 Dimensional Outline . . . . . See *General Section*  
 Bulb. . . . . T6-1/2  
 Base. . . . . Small-Button Noval 9-Pin (JEDEC No.E9-1)  
 Basing Designation for BOTTOM VIEW. . . . . 9GE

Pin 1 - Triode Plate  
 Pin 2 - Tetrode  
           Grid No.1  
 Pin 3 - Tetrode  
           Grid No.2  
 Pin 4 - Heater  
 Pin 5 - Heater  
 Pin 6 - Tetrode Plate



Pin 7 - Tetrode  
           Cathode,  
           Internal  
           Shield  
 Pin 8 - Triode  
           Cathode  
 Pin 9 - Triode  
           Grid

## AMPLIFIER — Class A<sub>1</sub>

### → Maximum Ratings, Design-Maximum Values:

	Triode Unit	Tetrode Unit	
PLATE VOLTAGE . . . . .	330 max.	330 max.	volts
GRID-No.2 (SCREEN-GRID)			
SUPPLY VOLTAGE. . . . .	-	330 max.	volts
GRID-No.2 VOLTAGE . . . . .	-	See <i>Grid-No.2 Input</i>	
<i>Rating Chart at front of Receiving Tube Section</i>			
GRID-No.1 (CONTROL-GRID)			
VOLTAGE:			
Positive-bias value . . . . .	0 max.	0 max.	volts
GRID-No.2 INPUT:			
For grid-No.2 voltages			
up to 165 volts . . . . .	-	0.7 max.	watt
For grid-No.2 voltages			
between 165 and			
330 volts . . . . .		See <i>Grid-No.2 Input</i>	
<i>Rating Chart at front of Receiving Tube Section</i>			
GRID INPUT. . . . .	0.55 max.	-	watt
PLATE DISSIPATION . . . . .	3.1 max.	3.2 max.	watts
PEAK HEATER-CATHODE			
VOLTAGE:			
Heater negative with			
respect to cathode. . . . .	200 max.	200 max.	volts
Heater positive with			
respect to cathode. . . . .	200★ max.	200★ max.	volts

### Maximum Circuit Values:

	Triode Unit	Tetrode Unit	
Grid-No.1-Circuit			
Resistance:			
For fixed-bias operation. . . . .	0.5 max.	0.25 max.	megohm
For cathode-bias operation. . . . .	1 max.	1 max.	megohm

→ Indicates a change.

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# 6CQ8

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- ▲ With external shield JEDEC No.315 connected to cathode of unit under test except as noted.
- With external shield JEDEC No.315 connected to ground.
- ★ The dc component must not exceed 100 volts.

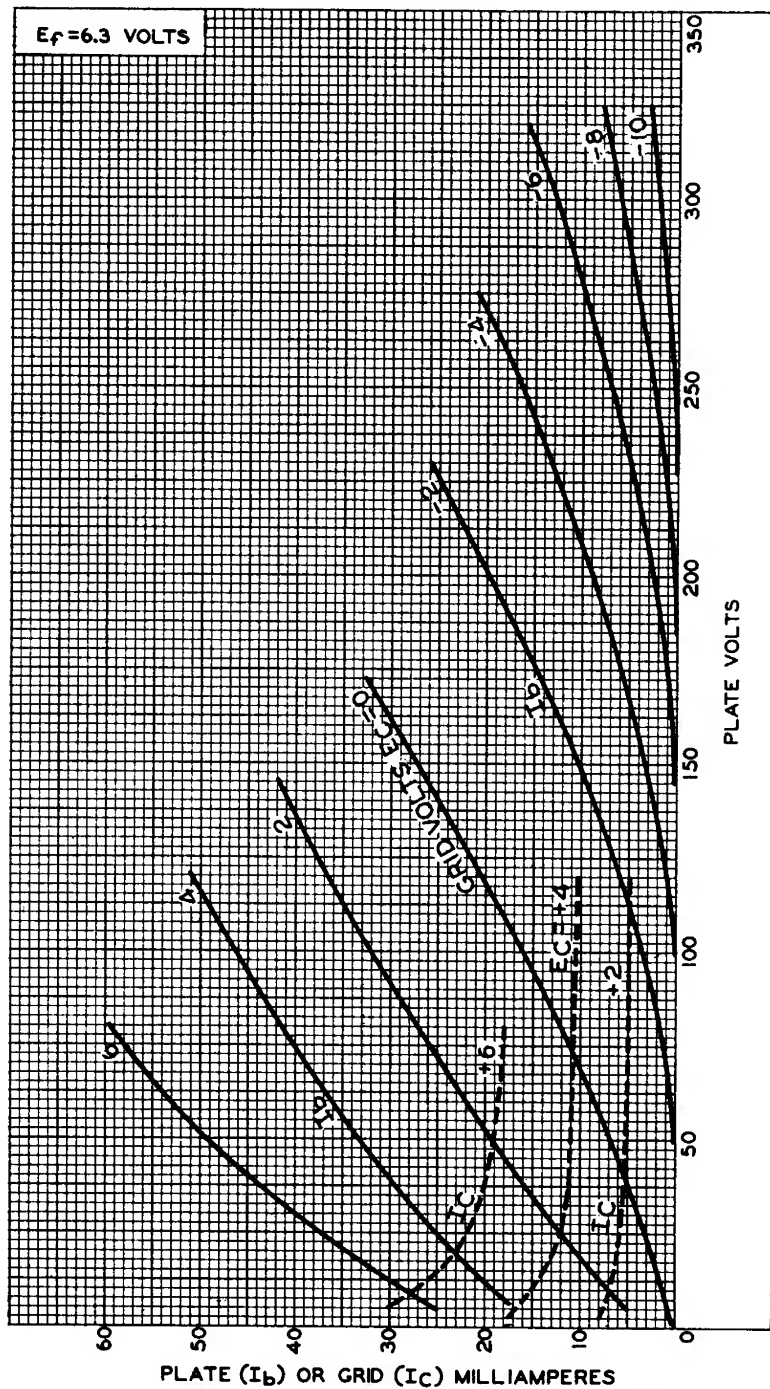


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DATA 2  
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## AVERAGE CHARACTERISTICS Triode Unit



92CM-9190R1

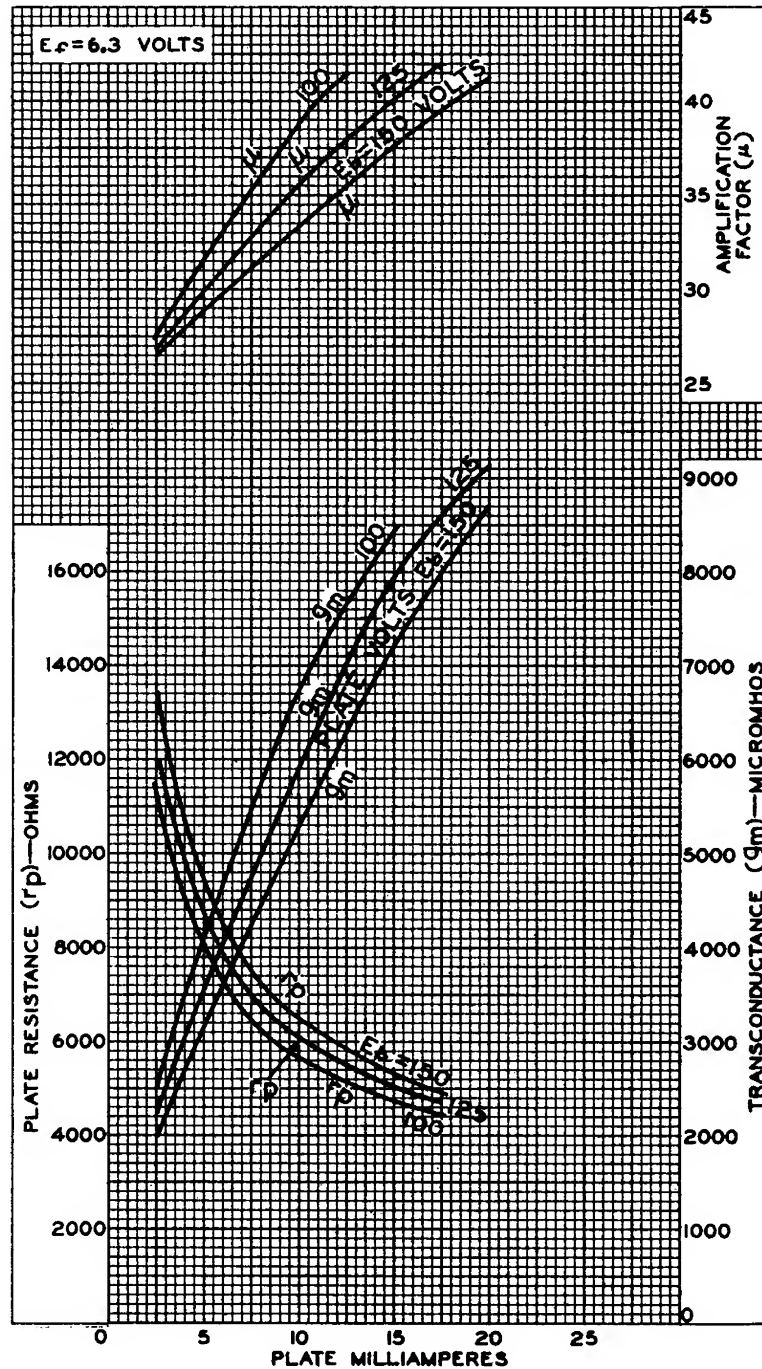
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## AVERAGE CHARACTERISTICS Triode Unit



92CM-787IRI

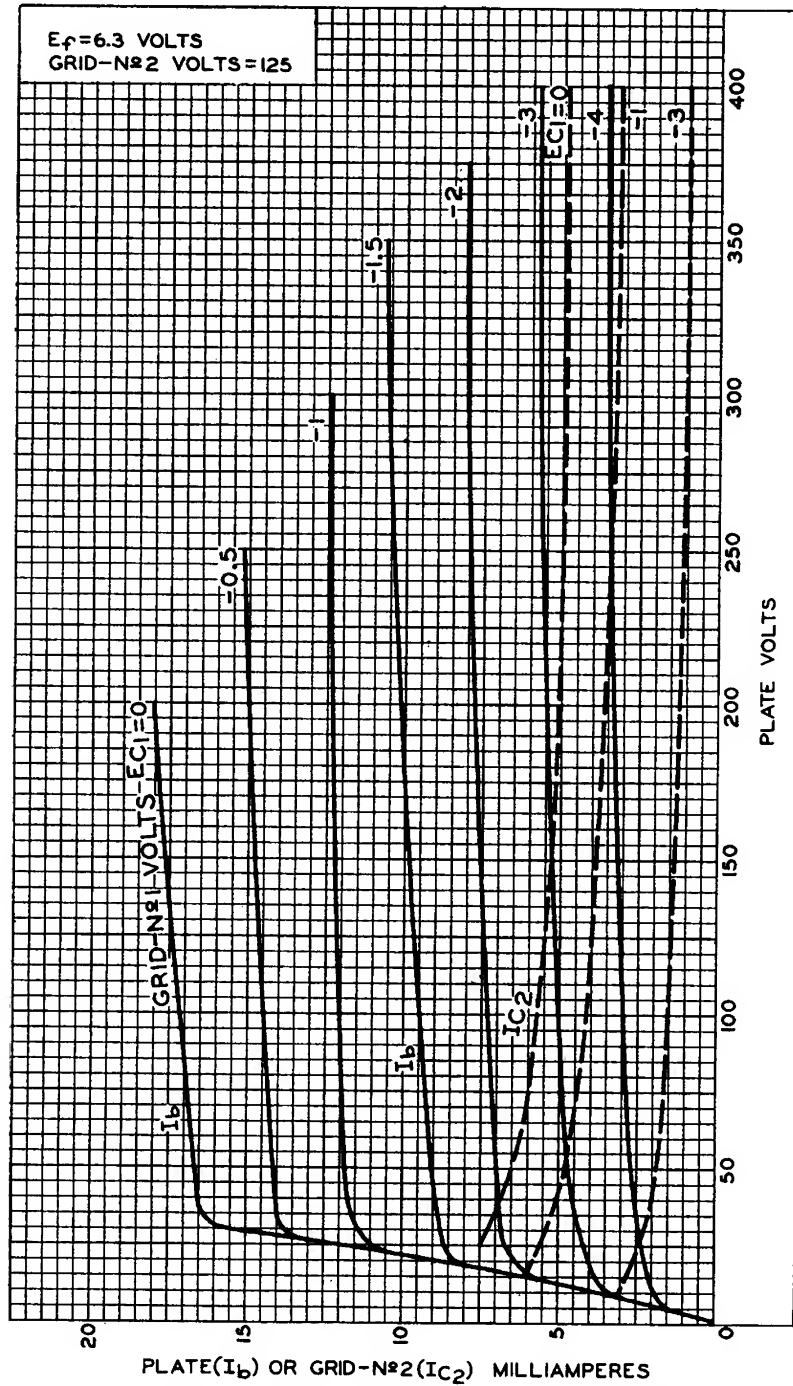


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DATA 3  
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## AVERAGE CHARACTERISTICS Tetrode Unit



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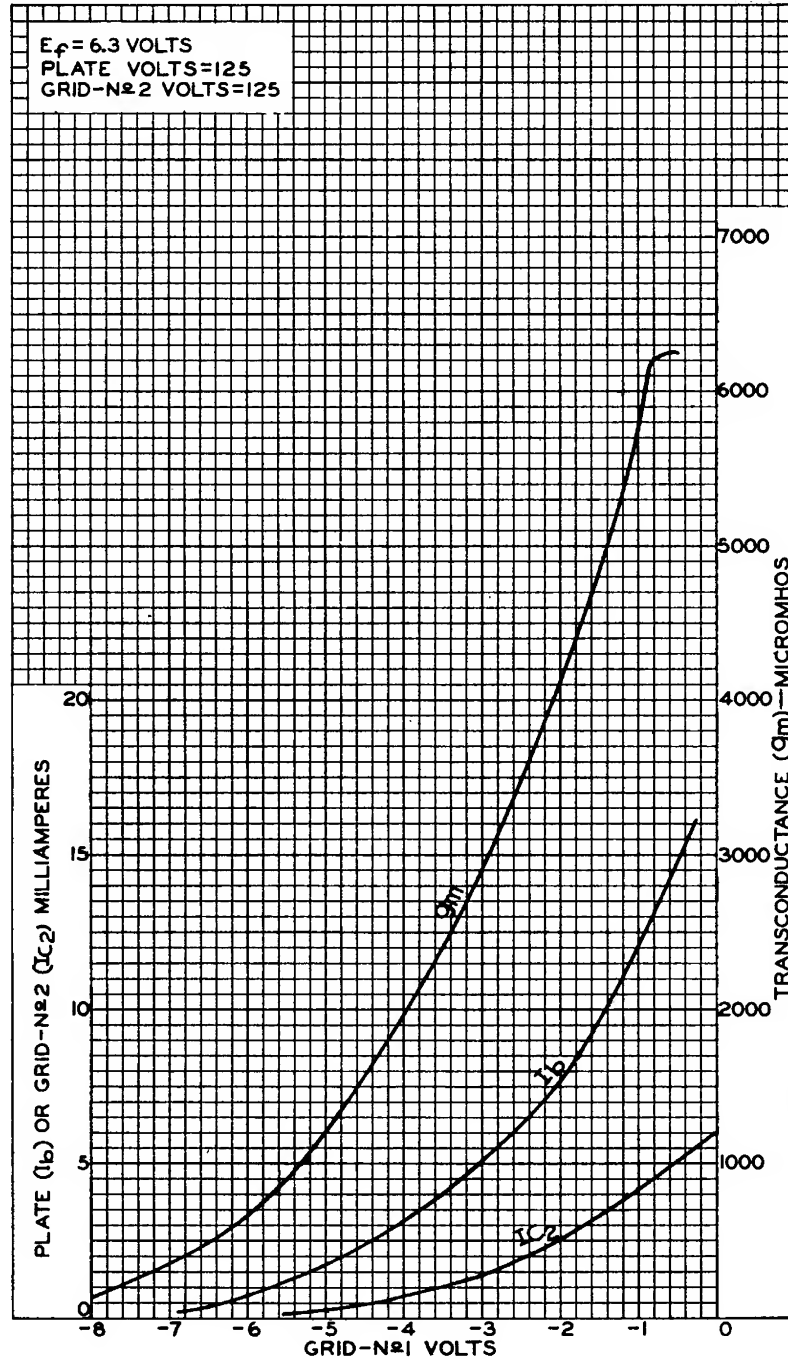
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## AVERAGE CHARACTERISTICS Tetrode Unit



92CM-9195



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